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EASTERN RESEARCH GROUP, INC.

MEMORANDUM

TO: Juan Santiago, U.S. EPA, Minerals and Inorganic Chemicals Group (MD-13)

FROM: Clint Burklin and Danny Greene, Eastern Research Group, Inc. (ERG)

DATE: November 5, 1997

SUBJECT: Summary of the September 3, 1997 meeting between EPA and representatives of the Asphalt Roofing Manufacturers Association (ARMA)

1.0 PURPOSE

The EPA met with ARMA representatives to discuss the overall maximum achievable control technology (MACT) development process and the organization of ARMA's MACT task force.

2.0 LOCATION AND DATE

The meeting took place at the EPA's Office of Air Quality Planning and Standards (OAQPS) in Durham, North Carolina on September 3, 1997, from 8:00 a.m. until approximately 11:30 a.m.

3.0 ATTENDEES

The meeting was attended by members of the OAQPS Emission Standards Division (ESD), ARMA, and ERG (ESD's contractor). A complete list of attendees, with their affiliation and phone number, is included as Attachment 1.

4.0 ISSUES DISCUSSED

4.1 Regulatory Process Review and Timetable

The EPA representatives discussed the overall MACT development process and a generic timetable (Attachment 2). The ARMA representatives noted that the timing of the schedule appeared to be tight. The EPA representatives indicated that not all of the milestones were sequential and that progress can be made on some milestones concurrently with others. The ARMA representatives asked how they could be involved in the MACT development process. The EPA representatives said that they encourage industry involvement in the development and assessment of the technical basis upon which the standard will be developed. However, the determination of standards is the responsibility of EPA, alone.

The ARMA representatives asked for an explanation of the public docket. The EPA representatives stated that the public docket is a file containing information necessary to support the rulemaking. The EPA representatives said that any information claimed as confidential by the industry would remain in the confidential business information (CBI) office files. The EPA representatives added that when information submitted to EPA is claimed confidential by the industry, much more work is required to evaluate the data due to the CBI protocol and handling procedures.

The ARMA representatives asked what they could do to help with EPA's economic analysis. The EPA representatives stated that EPA needs to identify small businesses. The ARMA representatives said that they would submit a list of companies that are small businesses to EPA.

The ARMA representatives asked if the non-ARMA facilities would be notified that EPA was developing a MACT rule for this industry. The EPA representatives said that this notification needed to be done and that it would be easier to contact non-ARMA facilities individually rather than as a group. The ARMA representatives said they would provide a list of non-ARMA member facilities to EPA.

4.2 ARMA Workgroup Organization

The ARMA representatives presented the organization of the ARMA task force established to work with EPA in developing the Asphalt Roofing and Processing MACT

standard (Attachment 3). As presented in Attachment 3, the task force is organized into four work groups: (1) blowstill operations (coordinator - Martha Bixby), (2) modified bitumen processes (coordinator - Himanshu Jani), (3) roofing line processes (coordinator - Ron Sanders), and (4) risk (coordinator - Bob Hockman). The ARMA representatives said that the task force was developed to make sure that communications between EPA and ARMA are kept open. The ARMA representatives stated that Bill Sells would be the contact person and facilitator for the task force.

4.3 Preliminary Analysis of Data

The EPA representatives stated that the focus of the Agency at this stage of the rulemaking is to establish the floor level of control and to develop test plans for candidate facilities. The EPA representatives said that a preliminary review of the survey data received in the Information Collection Request (ICR) indicated that one potential MACT floor level is the New Source Performance Standards (NSPS) for the asphalt industry. However, the MACT floors could be more stringent than the level of control required by the NSPS, depending on the equipment actually installed and the emission levels achieved.

The EPA representatives said that they needed relative performance data for the various control devices (e.g., electrostatic precipitators, high-volume air filters, thermal oxidizers) currently used by the industry. The ARMA representatives said that one of the reasons for the establishment of the industry's MACT task force was to help the Agency in developing information regarding process equipment and control devices used in the asphalt roofing and processing industry. The ARMA representatives asked if EPA used a performance range in determining the equivalency of different control devices. The EPA representatives said that equivalency depends on how close the overall performance is and the secondary impacts produced by the various control devices or techniques that may be considered.

The ARMA representatives said that most sources in the industry are low HAP emitters, based on the available data, and that perhaps control by thermal oxidizers is not warranted. The EPA representatives said that the relative magnitude of uncontrolled emissions associated with a particular piece of equipment is not considered in determining the floor level of control for each source type.

The ARMA representatives asked if the different toxicities between HAP compounds was a consideration in MACT development. The EPA representatives said that the toxicity of HAP compounds would only be evaluated if EPA was considering standards more stringent than the MACT floor.

4.4 Test Program

The EPA representatives said that they had test requests in place for two modified bitumen sites. The EPA representatives also said that they were going to use Fourier transform infrared spectroscopy (FTIR) and EPA Methods 26A, 5A, and 23 to identify gaseous HAP compounds, including dioxins and furans, and particulate matter (PM). The ARMA representatives indicated that they might be able to help EPA identify the HAP compounds that are emitted from asphalt processing; to date, they have looked primarily at PM. The ARMA representatives said that EPA should look at pretreating the inlet stream to FTIR so that only the gaseous HAPs get through to the instrument. The ARMA representatives also added that EPA needs to determine what the appropriate products and operating scenarios should be for the EPA tests.

The ARMA representatives asked how extensive the test program would be. The EPA representatives said that the sites currently selected should use up much of the testing budget allocated to the asphalt project for the 1998 fiscal year. The ARMA representatives said that it would be helpful to have a consolidated testing plan they could present to their board members to request funding.

The ARMA representatives asked if the mineral storage and handling sources would need to be tested. The EPA representatives said that the floor level of control would be evaluated. If a floor level of control exists, the EPA representatives said they would likely use an opacity approach to develop the regulation for these sources. Therefore, no testing would be performed.

The ARMA representatives asked if a sequential testing approach could be used. The EPA representatives said that there would not be enough time in the rulemaking schedule under the Clean Air Act for conducting a second test program.

The ARMA representatives stated that testing blow stills could be expensive due to the wide variety in raw material suppliers and characteristics. The EPA representatives asked what

are the factors that have the greatest impact on HAP emissions from blowstills. The ARMA representatives said that the different asphalt feed stocks will have the most impact on HAP emissions; different asphalts have different sulfur contents which require varying amounts of catalyst. The ARMA representatives said that there are so many feedstocks and process variables that affect HAP emissions that ARMA and EPA would need to make some simplifying assumptions regarding the process so as not to get lost in the details.

5.0 ACTION ITEMS

The following action items were identified during the meeting:

- The ARMA representatives are to provide a list of the companies that are small businesses to EPA; and
- The ARMA representatives are to provide a list of the non-ARMA member facilities to EPA.

Attachment 1

List of Attendees

List of Attendees

Name	Affiliation	Phone#
Danny Greene	ERG	919-461-1389
Clint Burklin	ERG	919-461-1262
Bill Sells	Sells & Associates	303-670-9015
Bill Candy	Owens Corning/ARMA	513-733-0659
Bob Hockman	TAMKO Roofing Products	417-624-6644
Russ Snyder	ARMA	301-231-9050
Martha Bixby	CertainTeed Corp.	610-341-7505
Ron Sanders	Celotex Corp.	313-873-4351
Jeff Hughes	U.S. Intec/GAF	409-724-7024
Ken Durkee	U.S. EPA	919-541-5425
Juan Santiago	U.S. EPA	919-541-1084
Michael Toney	U.S. EPA	919-541-5247

Attachment 2

Generic MACT Standards Development Schedule

4/9/93

MACT STANDARDS DEVELOPMENT
TECHNICAL/ANALYTICAL PHASE
TYPE "B" PROJECTS REQUIRING TESTING

ACTIVITY/TASK	WEEK
Notify centers of expertise and form project team*	0
Prepare and issue work assignment (WA)**	1
Contact trade associations	1
Notify STAPPA/ALAPCO of start	2
Search and review literature on the category	2
Request literature search from EPA library	3
Contact California districts for ARB 2588 (hot spots) emissions data	3
Contracts submits WA to contractor (CTR)	4
CTR submits draft work plan	6
Meet with CTR to discuss work plan	7
Review and approve final work plan	9
Meet with industry trade associations to solicit participation	9
Prepare a cursory industry characterization	9
Meet with team to confirm project typing decision and notify ESD	10
Contact other State and local agencies for information as appropriate	10
Select sites for orientation visits (2 to 4)	10
CTR submits discussion topics for site visits	10
Conduct orientation site visits	12
Prepare trip reports and clear reports for CBI	3 months
Customize the generic ICR and prepare mailing list	14 - 18
Complete mailing of the ICR	20
Complete compilation of ICR responses	32

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* Centers of expertise include engineering, economics, emission testing, compliance, and health risks.

** Early preparation of WA is recommended to avoid possible delays. Revisions to the WA may be needed after project scoping is completed.

ACTIVITY/TASK	WEEK
Submit summary report on ICR responses	34
Confirm/deny "major" source determination and notify ESD	34
If no major sources, initiate delisting process and meet with team to to evaluate pursuing an area source strategy	35
Make preliminary determinations on subcategorization, best similar source and existing source floors	36
Complete industry characterization (engineers portion) and submit to CEIS	37
Meet with team to evaluate adequacy of existing database for establishing MACT	38
Meet with EMB to discuss potential source testing needs	39
Decide on project approach for acquisition of additional data	40
Prepare emission source test plan	42
Submit SAN to OPAR	42
Obtain docket number and compile docket materials	42
Team prepares project plan/schedule	44
Submit project milestone schedule to ESD	45
Send package (background & approach) to WG	46
Meet with industry on project approach and source test plan	47
Meet with Work Group to review project approach	49
Select test candidate sites for visits (4 to 6)	49
Start site visits	51
Complete site visits	53
Meet to discuss visits and select test sites	54
Coordinate testing with EIB and EMB	55
Prepare & submit test requests to EMB (2 to 4)	55 - 63
Notify sites of intent to conduct emission tests	58
EMB and test contractor conduct pre-test site survey visits	61 - 66
Develop model plants and baseline emission estimates	65
Prepare industry specific and vendor Section 114 requests	67

ACTIVITY/TASK	WEEK
Mail industry specific and vendor Section 114 requests	68
Begin emission source testing campaign	68
Participate on-site in emission source tests	67 - 82
Develop model plant cost per EPA costing procedures	70
Submit process descriptions/data summaries for test reports to ESD	70 - 85
Submit tabular control costs to CEIS	71
CEIS completes industry profile	71
Begin preparation of economic impact analysis	72
Deliver process descriptions/data summaries for test reports to EMB/TSD	72 - 87
Obtain draft source test reports from EMB/TSD	74 - 89
Receive responses to Section 114 requests	75
Submit comments on test reports & meet with EMB/TSD	76 - 91
Submit discussions on overall findings to EMB/TSD	77 - 92
Analyze responses and make revisions to cost estimates if appropriate	77
Resubmit tabular control costs to CEIS (if revised)	77
Begin preparation of background information document	78
End field portion of emission source testing campaign	82
CTR submits draft chapter/report on industry description and baseline emissions	92
Complete assessment of HAP and MACT performance data	95
Make final determinations on subcategorization, best similar source and existing source floors	96
Submit memo on final determinations to ESD	98
Brief ESD/OAQPS on final determinations	98
Send package on final determinations to Work Group	98
Obtain final test reports from EMB/TSD	100
Meet with team to select regulatory options	100
Meet with Work Group on final determinations	101
CTR submits draft chapter/report on control measures	101
Complete estimates of nationwide impacts (environmental, energy, economic, etc.)	102

ACTIVITY/TASK	WEEK
Meet with team to select recommended option(s)	103
Complete preparation of materials for management briefings	105
CTR submits draft chapter/report on model plants, control costs and impacts	105
Brief ESD on options, impacts and recommendation(s)	106
Send briefing package to Work Group	106
Meet with Work Group on options, impacts and recommendations	108
Brief OAQPS on options, impacts and recommendations	109
OAQPS decides on recommended option(s)	110
Complete background information document	110
Notify/brief OAR on recommended option(s)	111
Prepare NAPCTAC package and mail to NAPCTAC, work group and industry	112*
Meet with NAPCTAC and industry	118

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* NAPCTAC-related activities may begin earlier or later, depending on when the meeting is actually held.

MACT STANDARDS DEVELOPMENT PROPOSAL PHASE
TYPE "B" PROJECTS REQUIRING TESTING

ACTIVITY/TASK	WEEK	
Begin first draft of preamble and regulation	110	
Conduct retreat to identify and select all necessary elements of the regulation*	111	
Submit first draft of preamble and regulation	118	*
Provide comments on first draft of preamble and regulation	120	
Begin second draft of preamble and regulation	120	
Resubmit draft preamble and regulation	122	*
Submit Action Memo, draft preamble and regulation to Branch Chiefs	123	
Send Action Memo, draft preamble and regulation to WG	125	
Meet with WG on draft preamble and regulation	128	
Notify OAR of possible non-concurrence	129	
Submit WG closure package to ESD	131	
Submit WG closure package to OAQPS	131	
Submit WG closure package to OAR	132	
Send closure package to WG	135	
Attend WG closure meeting	138	
Proposal package to ESD	140	
Proposal package to OAQPS	140	
Proposal package to OAR	141	
Proposal package to OMB	144	
OMB review complete	146	
Proposal package to Administrator	148	
Administrator signs proposed rule	151	
Publish proposed rule in FR	153	

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* Elements include formats and numerical values for emission limits; specifications for equipment or work practice standards; requirements for enhanced monitoring, recordkeeping and reporting; compliance schedules for existing sources; requirements for compliance testing; and others as appropriate.

MACT STANDARDS DEVELOPMENT - PROMULGATION PHASE
TYPE "B" PROJECTS REQUIRING TESTING

ACTIVITY/TASK	WEEK
Conduct public hearing	156
End of public comment period	160
Submit draft summary of public comments	162
Meet to discuss comment summary	163
Submit draft responses to public comments for review	167
Provide comments on draft responses	168
Submit second draft of responses	170
Submit draft promulgation BID	172
Brief Branch Chiefs and ESD Director on major issues/revisions	174
Submit WG package to WG (includes BID and discussion of major issues/revisions)	176
Submit draft revised regulation to WAM	178
Attend WG meeting	178
Brief OAQPS on major issues/revisions	179
Notify/brief OAR on major issues/revisions	180
Submit revised BID and SF-83 package	181
Submit draft promulgation package (Action Memo, preamble, revised regulation)	183
Submit WG closure package to Branch Chiefs	186
Submit WG closure package to ESD/OAQPS	186
Submit WG closure package to OAR/OPPE	187
Submit WG closure package to WG	189
Attend WG meeting for Agency sign-off	191
Submit promulgation package to Section/Branch Chiefs for sign-off	193
Submit promulgation package to ESD/OAQPS	193
Submit promulgation package to OAR/OPPE	197
Meet to discuss docket	195

ACTIVITY/TASK	WEEK
Submit promulgation package to OMB	197
OMB review complete	199
Submit promulgation package to Administrator	201
Administrator signs final rule	204
Send final docket update to Washington	204
Publish final rule in FR	205

Attachment 3

ARMA MACT Task Force Organization

ARMA's MACT Standard Development Organization

Purpose:

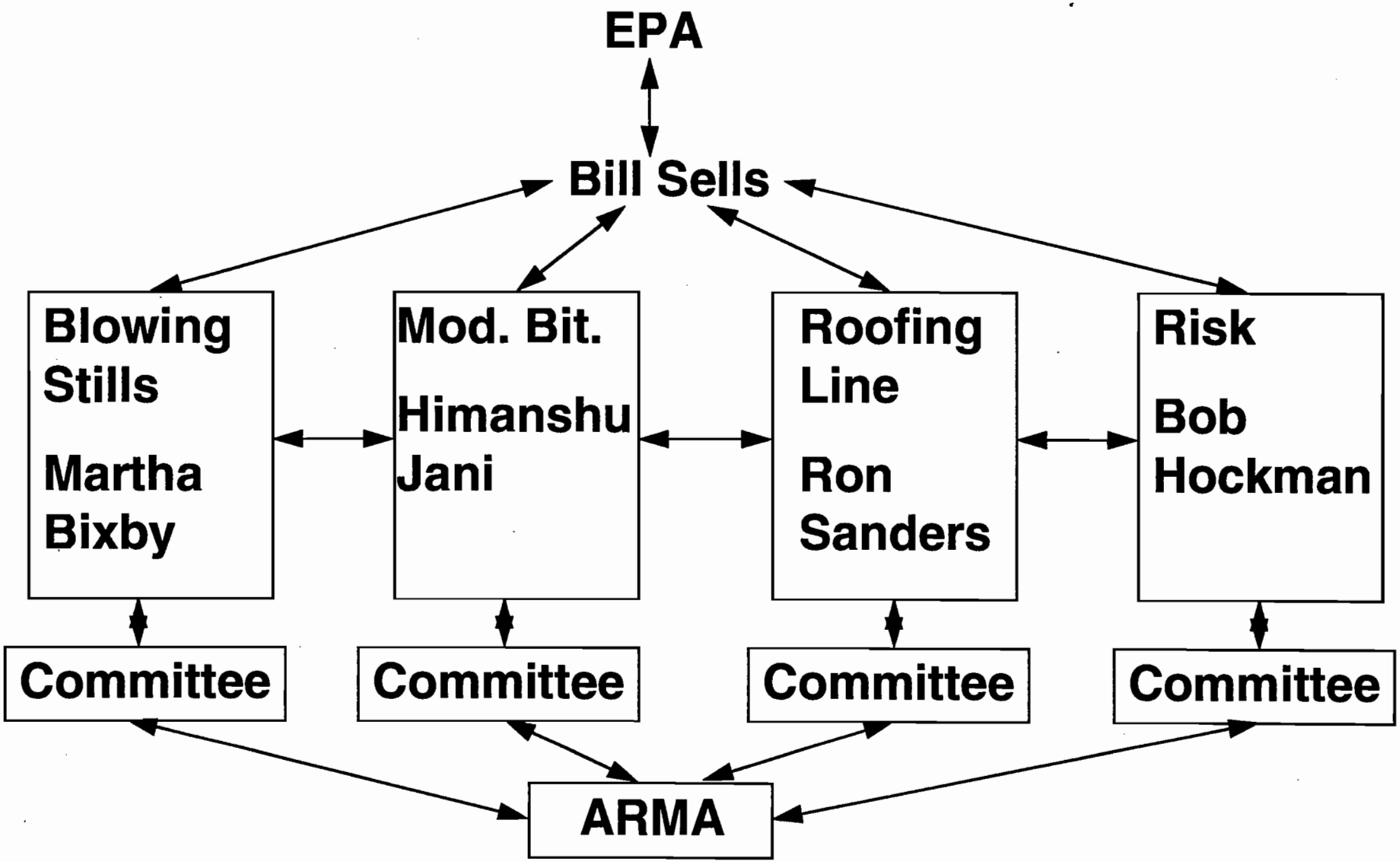
- To represent ARMA in a cooperative relationship with EPA
- To serve as ARMA's primary source of technical and operational expertise
- To identify resource needs and prepare an annual budget request for BOD approval

Goals:

- Gather, analyze and submit necessary data for EPAs use in developing the MACT standard
- Identify technical and process experts to support EPA's informational requests
- Monitor the timetable of ARMA's commitments to the EPA and take appropriate action to meet deadlines and schedules

ARMA's Suggested

MACT Standard Development Organization



Bill Sells
Sells and Associates, Inc.
Consultant to ARMA

- 37 years of industrial management experience
- Masters Degree in Environmental Policy and Management

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ARMA - BLOW STILL COMMITTEE COORDINATOR

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EDUCATION:

- B.S. Environmental Science - West Chester University, West Chester, PA (1991)
- M.S. Hazardous Waste and Materials Management -Southern Methodist University, Dallas, TX (Current)

EXPERIENCE:

CertainTeed Corporation - Exterior Products Division (since 9-14-91)
Held positions in Corporate Industrial Hygiene and Divisional Environmental Management. Currently coordinates environmental compliance support, industrial hygiene management, and safety coordination in 22 CertainTeed locations. **Three of these facilities are asphalt roofing manufacturing locations. One of these three facilities has an asphalt blow still.**

Stewart-Todd Associates, Inc. - Environmental Consulting (8/88 to 9/91)
Consultant to public and private sector. Industrial hygiene, toxicology, and health research. Held positions as project manager, field consultant, and technical writer.

PROFESSIONAL AFFILIATIONS

- Air & Waste Management Association
- American Industrial Hygiene Association

Himanshu Jani
Corporate Environmental Manager
GS Roofing Products, Inc.

- Chemical Engineer
- Indstrial and Consulting Experiences

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Bob Hockman
Director, Environmental Management & Services
TAMKO Roofing Products

- 18 years of environmental management and regulatory experience in oil and roofing industry

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ORGANIZATION :	**Celotex Corporation**
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TELEPHONE :	813/873-4351
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EDUCATION :	Bachelor of Mechanical Engineering, Auburn University Master of Science in Mechanical Engineering, University of Florida (Public Health Traineeship in Air Pollution Control) USEPA courses in Stack Emissions Testing and Air Modeling
CERTIFICATIONS :	Registered Professional Engineer, Alabama and Florida Certified Hazardous Materials Manager Registered Environmental Assessor, California
ENVIRONMENTAL EXPERIENCE :	27 years as a staff environmental engineer for Jim Walter Corporation, Walter Industries and Celotex Corporation. Responsibilities include stack emissions testing, air, water and solid waste permit preparation, emission control system design and selection, industrial wastewater and stormwater control systems design and selection, site assessment and cleanup, regulatory assessment and support to legal staff. The above have been provided at numerous industrial sites in addition to asphalt roofing plants including iron foundries, slag wool plants, gypsum board manufacturing, fiber board plants, rigid foam insulation plants, ceiling tile plants and others. At present there are 26 active Celotex manufacturing plants in 18 states for which I have responsibility.

Jeff Hughes
U.S. INTEC, Inc. a Subsidiary of GAF

- 14 years Modified Bitumen Industry in Engineering and Environmental Responsibilities

- Petroleum Refining Engineer

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William Candy
Owens Corning
Leader of Environmental Affairs
Roofing Systems

- BS in Chemical Engineering, Drexel University
- MS Environmental Engineering, Drexel University
- Responsible for identifying compliance requirements and solutions at all Owens Corning roofing and Asphalt Plants. Major efforts have been preparation of Title V permit applications, preparation and implementation of compliance plans, and development of environmental management systems.
- Roofing Plant Manger
- Manufacturing Operations Manager, Commercial Roofing Division

- Professional Engineer in the states of Ohio and Indiana
- Chairman, ARMA Manufacturing Committee
- Member, American Institute of Chemical Engineers
- Former Diplomat of the American Academy of Environmental Engineers

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Asphalt Roofing Manufacturers Association

BLOW STILL WORK GROUP

CertainTeed Corporation -	Martha Bixby*
Owens Corning -	Bill Candy
Tamko Roofing Products Inc. -	Bob Hockman
IKO Production, Inc. -	Dave Foulkes
Johns Manville Corporation -	Angela Jankousky
Celotex Corporation -	Ron Sanders

** WORK GROUP COORDINATOR*

ASPHALT BLOW STILL WORK GROUP
PROPOSED SIMPLIFIED PROCESS APROACH

	BEFORE CONTROL	AFTER CONTROL
Non-Catalyzed Process	?	?
Non-chlorinated Catalyzed Process	?	?
Clorinated Catalyzed Process	?	?

w/ CONSIDERATION TO SULFUR CONTENT OF ASPHALT FLUX AND OTHER SIGNIFICANT PROCESS VARIABLES.

Asphalt Roofing Manufacturers Association

MODIFIED BITUMEN WORK GROUP

Tamko Roofing Products Inc. -	Bob Hockman
US Intec, GAF Materials -	Jeff Hughes
Johns Manville Corporation -	Angela Jankousky
Siplast, Inc. -	Todd Hughes
GS Roofing Products, Inc. -	Himanshu Jani*

**WORK GROUP COORDINATOR*

Asphalt Roofing Manufacturers Association

ROOFING LINE WORK GROUP

GAF Materials Corporation -	Phil Ruffo
CertainTeed Corporation -	Martha Bixby
Owens Corning -	Bill Candy
Tamko Roofing Products Inc. -	Bob Hockman
Celotex Corporation -	Ron Sanders*
Siplast, Inc. -	Todd Franks
Globe Bldg. Materials Corp. -	Ron Loera
Tremco, Inc. -	Tony Kotnik

**WORK GROUP COORDINATOR*

Use Risk to:

- Key in on most significant compounds to best focus money and efforts
- Provide guidance and direction for technical efforts
- Surrogate concept
- Define significant exposures

Developing ARMA's test program including coordination with EPA

- ARMA's MACT technical committees need to have a detailed test program defined by November 1, 1997. We anticipate resource approval by ARMA's BOD by mid November 1997.

- Identification of potential HAPs in the roofing process.

- "The test method defines the results."
    - ◊ Consistency between data gathering and compliance.
    - ◊ Any "credible evidence" concern
    - ◊ ARMA's report on emission characterization

- Representative stack emissions for blowing stills and modified bitumen.

- Risk

ICR data limitations of representativeness and completeness

- ARMA recognizes the ICR submission is not complete and has initiated action to finalize this work.
- Representativeness of the data to be confirmed by ARMA's MACT committees.
- Confidentially issue has been addressed
- It appears that significant additional data gathering and analysis must be done before effectively modeling the roofing processes.
- Final ICR reports will be completed by year end 1997.
- Final ICR reports will include information necessary for the MACT floor calculations as well as necessary economic and industry data.